IN THE CLAIMS:

Please substitute claims 47, 50, 52, and 55 with the following amended version:

47. (twice amended) An isolated polypeptide monomer of a pH sensitive potassium channel, the monomer:

(i) forming a potassium channel having a unit conductance of 80-120 pS and having increased potassium channel current amplitude above intracellular pH of 7.1, when the monomer is expressed in *Xenopus* oocyte; and

(ii) encoded by a nucleic acid that specifically binds under stringent hybridization conditions to the complement of a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:16 or SEQ ID NO:18, wherein the hybridization reaction is incubated at 42°C in a buffer comprising 50% formamide, 5x SSC, and 1% SDS, and washed at 65°C in a buffer comprising 0.2x SSC and 0.1% SDS.

D1

50. (once amended) An isolated monomer of claim 47, wherein the monomer has a molecular weight of about 126 kDa, which is calculated from amino acid sequence of the monomer.

D2

52. (twice amended) An isolated polypeptide monomer of a pH sensitive potassium channel, the monomer:

(i) forming a potassium channel having a unit conductance of 80-120 pS and having increased potassium channel current amplitude above intracellular pH of 7.1, when the monomer is expressed in *Xenopus* oocyte; and

D3

(ii) encoded by a nucleic acid that specifically binds under stringent hybridization conditions to the nucleic acid disclosed in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:17 or SEQ ID NO:19, wherein the hybridization reaction is incubated at 37°C in a buffer comprising 40% formamide, 1M NaCl, and 1% SDS, and washed at 45°C in a buffer comprising 1x SSC.